Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Original): A catalyst composition comprising:

(a) a support;

(b) a first metal component comprising rhodium; and

(c) a second metal component comprising a metal other than rhodium and selected from Groups 1 to 15 of the Periodic Table of Elements,

wherein said first and second components are predominantly contained in an outer surface layer of the support having a depth of not more than 1000 microns.

Claim 2 (Original): The catalyst composition of claim 1 wherein the depth of said outer surface layer of the support is not more than 500 microns.

Claim 3 (Original): The catalyst composition of claim 1 wherein the depth of said outer surface layer of the support is not more than 300 microns.

Claim 4 (Original): The catalyst composition of claim 1 wherein the depth of said outer surface layer of the support is not more than 100 microns.

Claim 5 (Original): The catalyst composition of claim 1 and comprising from about 0.01% to about 10% of rhodium by weight of the total catalyst composition including the support.

Claim 6 (Original): The catalyst composition of claim 1 and comprising from about 0.1% to about 3.0% of rhodium by weight of the total catalyst composition including the support.

Claim 7 (Original): The catalyst composition of claim 1 and comprising from about 0.01% to about 20 % by weight of the metal of the second metal component by weight of the total catalyst composition including the support.

Claim 8 (Original): The catalyst composition of claim 1 and comprising from about 0.4% to

about 5 % by weight of the metal of the second metal component by weight of the total catalyst composition including the support.

Claim 9 (Original): The catalyst composition of claim 1 wherein said second metal component comprises a metal selected from Group 13 of the Periodic Table of Elements.

Claim 10 (Original): The catalyst composition of claim 1 wherein said second metal component comprises indium.

Claim 11 (Original): The catalyst composition of claim 10 and comprising from about 0.01% to about 20% of indium by weight of the total catalyst composition including the support.

Claim 12 (Original): The catalyst composition of claim 10 and comprising from about 0.4% to about 5.0% of indium by weight of the total catalyst composition including the support.

Claim 13 (Currently Amended): A catalyst composition comprising:

(a) a support;

(b) a first metal component comprising rhodium;

(d) a second metal component comprising a metal selected from Groups 12 to 15 of the Periodic Table of Elements; and

(e) a third metal component comprising a metal different from those of said first and second components and selected from Groups 1 to 15 of the Periodic Table of Elements,[[.]]

wherein at least said first and second metal components are predominantly contained in an outer surface layer of the support having a depth of not more than 1000 microns.

Claim 14 (Original): The catalyst composition of claim 13 wherein the depth of said outer surface layer of the support is not more than 500 microns.

Claim 15 (Original): The catalyst composition of claim 13 wherein the depth of said outer surface layer of the support is not more than 300 microns.

Claim 16 (Original): The catalyst composition of claim 13 wherein the depth of said outer surface layer of the support is not more than 100 microns.

Claim 17 (Original): The catalyst composition of claim 13 wherein said third metal component is also contained in said outer surface layer of the support.

Claim 18 (Original): The catalyst composition of claim 13 and comprising from about 0.01% to about 10% of rhodium by weight of the total catalyst composition including the support.

Claim 19 (Original): The catalyst composition of claim 13 and comprising from about 0.04% to about 5% of rhodium by weight of the total catalyst composition including the support.

Claim 20 (Original): The catalyst composition of claim 13 and comprising from about 0.01 wt% to about 30 wt% of the metal of the second metal component by weight of the total catalyst composition including the support.

Claim 21 (Original): The catalyst composition of claim 13 and comprising from about 0.04 wt% to about 20 wt% of the metal of the second metal component by weight of the total catalyst composition including the support.

Claim 22 (Original): The catalyst composition of claim 13 wherein said second metal component comprises a metal selected from Group 13 of the Periodic Table of Elements.

Claim 23 (Original): The catalyst composition of claim 13 wherein said second metal component comprises indium.

Claim 24 (Original): The catalyst composition of claim 13 and comprising from about 0.01% to about 20% of indium by weight of the total catalyst composition including the support.

Claim 25 (Original): The catalyst composition of claim 13 and comprising from about 0.04% to about 10% of indium by weight of the total catalyst composition including the support.

Claim 26 (Original): The catalyst composition of claim 13 and comprising from about 0.01% to about 50% of the metal of the third metal component by weight of the total catalyst composition including the support.

Claim 27 (Original): The catalyst composition of claim 13 and comprising from about 0.05% to about 30% of the metal of the third metal component by weight of the total catalyst composition including the support.

Claim 28 (Original): The catalyst composition of claim 13 wherein said third component comprises at least one metal selected from Groups 8 to 10 of the Periodic Table of Elements.

Claim 29 (Original): The catalyst composition of claim 13 wherein said third component is selected from one or more of iron, ruthenium and cobalt.

Claim 30 (Original): The catalyst composition of claim 29 wherein the third component is iron and the catalyst composition comprises from about 0.05% to about 30% of iron by weight of the total catalyst composition including the support.

Claim 31 (Original): The catalyst composition of claim 29 wherein the third component is iron and the catalyst composition comprises from about 0.1% to about 20% of iron by weight of the total catalyst composition including the support.

Claim 32 (Original): The catalyst composition of claim 29 wherein the third component is cobalt and the catalyst composition comprises from about 0.05% to about 30% of cobalt by weight of the total catalyst composition including the support.

Claim 33 (Original): The catalyst composition of claim 29 wherein the third component is cobalt and the catalyst composition comprises from about 0.1% to about 25% of cobalt by weight of the total catalyst composition including the support.

Claim 34 (Original): The catalyst composition of claim 29 wherein the third component is ruthenium and the catalyst composition comprises from about 0.05% to about 10% of ruthenium metal by weight of the total catalyst composition including the support.

Claim 35 (Original): The catalyst composition of claim 29 wherein the third component is ruthenium and the catalyst composition comprises from about 0.1% to about 5% of ruthenium metal by weight of the total catalyst composition including the support.

Claim 36 (Original): A method of making a catalyst composition, the method comprising:

(a) applying a rhodium compound to a surface layer of a support having a depth of not more than 1000 microns;

(b) applying a compound of a second metal selected from Groups 12 to 15 of the Periodic Table of Elements to said surface layer of the support; and

(c) applying a compound of a third metal different from rhodium and from said second metal and selected from Groups 1 to 15 of the Periodic Table of Elements to the support.

Claim 37 (Original): The method of claim 36 wherein said third metal compound is applied to the support before either the rhodium compound or the second metal compound.

Claim 38 (Original): The method of claim 36 wherein the second metal compound is applied to the support either concurrently with or before the rhodium compound.

Claim 39 (Original): The method of claim 36 wherein at least one of (a), (b) and (c) is effected by an impregnation, precipitation, slurry mixing or coating step.

Claim 40 (Original): The method of claim 36 wherein said second metal is selected from Group 13 of the Periodic Table of Elements.

Claim 41 (Original): The method of claim 36 wherein said second metal is indium.

Claim 42 (Original): The method of claim 36 wherein said third metal selected from Groups 8 to 10 of the Periodic Table of Elements.

Claim 43 (Original): The method of claim 36 wherein said third metal is selected from one or more of iron, ruthenium and cobalt.

Claim 44 (Original): The method of claim 36 and, after (a) and/or (b) and/or (c), calcining the support at a temperature of about 100°C to about 600°C.

Claim 45 (Original): The method of claim 36 and, after (a), (b) and (c), treating the calcined support in a reducing atmosphere at a temperature in excess of 200°C.

Claim 46 (Withdrawn): A process for selectively removing alkynes or diolefins from a feedstock also containing olefins, the process comprising contacting the feedstock with hydrogen in the presence of a catalyst composition made by the method of claim 36.

Claim 47 (Withdrawn): A process for selectively removing alkynes or diolefins from a feedstock also containing olefins, the process comprising contacting the feedstock with hydrogen in the presence of a catalyst composition as claimed in claim 1.

Claim 48 (Withdrawn): The process of claim 47 wherein the alkynes or diolefins have 2 to 4 carbon atoms and the feedstock also contains C_2 to C_4 olefins.

Claim 49 (Withdrawn): The process of claim 47 wherein said contacting is conducted at a temperature of from about 20°C to about 150°C, a pressure of from about 690 kPa to 4100 kPa, and a molar ratio of hydrogen to alkynes and diolefins of from about 1 to about 1000.

Claim 50 (Withdrawn): The process of claim 47 wherein said contacting is conducted at a temperature of from about 30°C to about 100°C, a pressure of from about 1400 kPa to 3400 kPa, and a molar ratio of hydrogen to alkynes and diolefins of from about 1.1 to about 800.